



Australian Velvet Antler and Deer Co-Products

Developing Domestic Markets

Part B

**A report for the
Rural Industries Research
and Development Corporation**

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Foreword

Since becoming a commercial product-based industry, the profitability of the Australian deer industry has been based on returns from the sale of venison and velvet antler.

While the profitability of the world's biggest farmed deer industry (New Zealand) is similarly based on the sale of venison and velvet antler, it also obtains a significant boost to returns from the sale of value-added velvet and venison co-products.

Asians involved in the production, processing, marketing and use of traditional Chinese medicines are increasingly broadening their search for new sources of both raw materials and processed products however, Australia is not a well-recognised supplier of such goods to Asian markets for Traditional Chinese Medicine Products and to transient Asian tourist populations.

The velvet antler and venison co-products specification manual produced by this project will enhance the Australian deer industry's commitment to Quality Assurance, promote the industry as a supplier of quality products and provide a basis for confident market development.

Increased demand that follows market development will lead to improved value of these products and will subsequently returns to Australian deer farmers.

Three language versions (English, Korean and Chinese) of the specification manual will be produced to increase its usefulness and broad appeal.

This project was funded from industry revenue which is matched by funds provided by the Federal Government

This report joins RIRDC's diverse range of almost 800 research publications. It forms part of our Deer R&D program, which aims to foster an Australian deer industry as a profitable and efficient mainstream agricultural enterprise.

Most of our publications are available for viewing, downloading or purchasing online through our website:

downloads at www.rirdc.gov.au/reports/Index.htm

purchases at www.rirdc.gov.au/eshop

Peter Core

Managing Director

Rural Industries Research and Development Corporation

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Executive Summary

General

The volume of co-products produced by the Australian industry continues to increase and offers significant earning potential.

The Australian meat Industry is a world leader in the preparation of domestic and export meat products to stringent specifications. This reputation has principally been built on the established beef and sheep meat industries that began in the 19th century. The farming of deer has only occurred over the past few decades with a rapid expansion of numbers from the tropical to the temperate zones.

A secondary step in the development of a mature market driven industry was the development of a standard language and specifications for the Industry's other major products, Velvet Antler and Venison Co-products, particularly as Asians involved in the production, processing, marketing and use of traditional Chinese medicines are increasingly broadening their search for new sources of both raw materials and processed products.

The velvet antler and venison co-products manual produced by this project provides those involved in marketing products with a 'user friendly' publication that will inform purchasers of the standard specifications for products produced in Australia and of the Australian industry's commitment to Quality Assurance in production and supply of the products it produces.

The specification manual will be produced with versions in English, Korean and Chinese.

1. Introduction

Australia is a small player in the international velvet antler market. Although Australian production is growing steadily, it still only produces about 25 to 30 tonnes of green product annually compared to New Zealand production that exceeds 400 tonnes annually.

Although Korea controls the sale and movement of the majority of velvet antler marketed internationally and is a major consumer of product, New Zealand significantly influences the International velvet antler market. In recent years New Zealand companies have purchased (either directly or indirectly) a significant volume of Australia's annual production and anecdotal reports suggest at least 50% of the antler purchased from Australia is used in the production of velvet antler capsules and, although difficult to measure, an estimated 20% of the capsules produced are consumed by the New Zealand's domestic market.

Average farmer returns for red deer velvet sold by the Australian Deer Horn and Co-products Pty Ltd (ADH) at its 2001/2002 pools was about \$70.00/kg green. This equates to approximately \$210/kg for dried product. The retail value of velvet antler capsules sold in Australia today varies from about \$600/kg (Australian made product) to \$1350/kg (imported New Zealand product).

The volume of product produced by the Australian industry continues to increase and offers significant earning potential. Bilby International (Chapman 2001) provided the following guide to average production of co-products from red, fallow and rusa deer slaughtered in Australia.

Table 1. Estimated potential average production of co-products

Product	Fallow	Red	Rusa
Tail (ea)		0.75 ***	1
Pizzle (gms)	150	300	175
Sinews (gms)	160	300	250
Blood (gms)	1500	3000	
Heart (gms)	250	500	

*** Not all tails from female red deer are suitable

Australian processed approximately 17,000 red deer, 36,000 fallow deer and 4,000 rusa deer during the July 99 to June 2000 year and 18,000 red deer, 28,000 fallow deer and 2,000 rusa deer during the July 2000 to June 2001 year. The estimated volume of co-products that could have been produced from these animals is show in table 2.

Table 2. Estimated potential production of co-product in 1999/2000 and 2000/2001

Product	1999/2000			2000/2001		
	Fallow	Red	Rusa	Fallow	Red	Rusa
Tail (ea)		12,750	4,000		13,500	2,000
Pizzle (kgs)	2,700	2,750	350	2,100	2,700	175
Sinews (kgs)	5,760	5,100	1,000	4,208	5,400	500
Blood (kgs)	54,000	51,000		42,000	54,000	
Heart (kgs)	9,000	8,500		7,000	9,000	

Asians involved in the production, processing, marketing and use of traditional Chinese medicines are increasingly broadening their search for new sources of both raw materials and processed products however, Australia is not a well-recognised supplier of such goods to Asian markets for Traditional Chinese Medicine Products and to transient Asian tourist populations.

A velvet antler and venison co-products specification manual will provide those involved in marketing products with a 'user friendly' publication that will inform purchasers of the standard specifications for products produced in Australia and of the Australian industry's commitment to Quality Assurance in production and supply of the products it produces.

2. Objectives

As a follow on from part 'A' of the project, the major emphasis of this project was to develop a promotional manual that documents specifications for fresh and value-added, Australian deer industry velvet antler and venison co-products.

Discrete objectives were to:

Improve returns to Australian fallow deer farmers by developing profitable, sustainable domestic Australian market demand for fallow deer velvet antler

Improve returns to all Australian deer farmers by developing profitable demand for co-products (liver, sinews, hearts, blood and kidneys)

Initiate production of value-added deer antler and venison co-products according to specifications documented by Part A of this project

Develop a promotional manual that documents specifications for fresh and value-added, Australian deer industry velvet antler and venison co-products

3. Methodology

Objective 1:

Discussions related to fallow deer velvet processing were undertaken with two Australian companies that process significant volumes of deer antler for domestic and international markets.

Between them these two companies process most if not all of Australia's fallow deer velvet and so help maintain a small but continuing market for fallow deer velvet. It is unreasonable though to imply that the activities of this project have influenced the commitment of the companies to processing fallow deer velvet.

Objective 2:

Bilby International has continued to research the market opportunities for venison co-products sourced from Australian deer.

Although markets exist, one of the marketing difficulties has been the lack of document specifications for co-products. The development of a velvet and venison co-products specification manual by this project is intended to address most areas of concern.

Objective 3:

Using information produced by part 'A' of this project, Bilby International is now involved in contract processing and marketing of fallow velvet antler and venison co-products.

Improved returns for Australian growers are clearly demonstrated by Bilby International through detailed information on client invoices that demonstrate additional farmer income (above the HSCW price for venison) derived from sale of venison co-products obtained from each animal processed.

Objective 4:

A manual, summarising the specifications for fresh and value-added Australian velvet antler and venison co-products as well as current velvet antler grading specifications, was developed for general industry use.

The manual was developed with the assistance and cooperation of the New Zealand Game Industry Board, the Deer Industry Association of Australia and Australian Deer Horn and Co. Products, Mr Murray Hamer from the Alpine Deer Group in New Zealand, Dr Zhong Chen from Tong Ren Tang Australia and Mr Alan Chapman from Bilby International in Australia.

4. Results

Objective 1 – Fallow Velvet Antler Sales

Although it is unreasonable though to imply that the activities of this project have been the major influence on the commitment of the companies to process fallow deer velvet and to market the resulting value-added products, it is clear that two of Australia's biggest velvet processing companies continue to purchase and process all fallow deer velvet harvested in Australia.

However, farmer returns per kilogram of fallow velvet produced are still significantly less than those achieved for red deer and elk/wapiti velvet. The low unit price is influenced by many factors including:

- Variability in quality
- Inconsistency of supply
- Small volume available to purchasers

Objective 2 – Market Demand for Venison co-products

It is beyond the scope of this project to directly affect the market demand for venison co-products produced in Australia.

However the number of businesses processing deer in export accredited abattoirs has decreased significantly in recent years (about five major players in 2002) and one of the major marketing constraints of the past has been large number of processors, each with a small volume of product to offer the market.

Although the market demand for unprocessed and value-added venison co-products remains volatile, the Australian industry is better placed to supply markets than it ever has been in the past.

The velvet antler and venison co-products specification manual produced by this project will provide Australian marketers with an invaluable tool to assist market development.

The factor most likely to improve the ability of the Australian industry to profitably market these products is that existing processors cooperate in supplying products to potential markets and cooperate to reduce duplication of marketing costs

Objective 3 – Initiate Processing of Products

As with objective 1, it is unreasonable though to imply that the activities of this project have been the major influence on the commitment of the companies to process and market venison co-products, it is clear that Bilby International was influenced by information provided by part 'A' of this project and is now actively processing and marketing venison co-products.

Bilby directors keenly wait for the velvet antler and venison co-products specification manual produced by this project assist their development of co-product markets and marketing programs.

As the market for value-added venison co-products grows, farmer returns will continue to increase with no significant increase in production costs (there may be small production cost increases that relate to greater emphasis on Quality Assurance programs and management practices that allow farmers to maximise income from venison co-products).

For example ideally harvested, processed and packaged large red deer tails are currently valued at about \$90.00 in existing markets.

Objective 4 – Velvet antler and venison co-products specification manual

As The development of the specifications manual for velvet and venison co-products is complete and has been reviewed by a range of industry people in Australia and New Zealand (including the New Zealand Game Industry Board).

All information on red deer and Elk/Wapiti velvet grading included in the manual is taken directly from the 'New Zealand Velvet Grading Guidelines' produced by the New Zealand Game Industry Board.

Information on fallow deer velvet grading included in the manual is taken directly from the 'Fallow Velvet Guideline Chart' produced by the Deer Industry Association of Australia and Australian Deer Horn and Co. Products. A special note of thanks is given to the Deer Industry Association of Australia and Australian Deer Horn and Co. Products for their consent to include Velvet Grading Charts for Fallow deer in the manual.

Others who have contributed to the development of this manual include Mr Murray Hamer from the Alpine Der Group in New Zealand, Dr Zhong Chen from Tong Ren Tang Australia and Mr Alan Chapman from Bilby International in Australia.

Quality Assurance

The manual supports the Australian and New Zealand Quality Assurance programs and describes velvet as a health food that should be handled and stored in an approved hygienic manner and as described in Australia by the National Velvet Accreditation Scheme (NVAS)

It also describes that in Australia velvet harvesting must be undertaken accordance with the NVAS and New Zealand in accordance with the AWAC Code of Recommendations and Minimum Standards for the Welfare of Deer During the Removal of Antlers. Failure to comply with appropriate codes may result in prosecution.

Aims of the Australian NVAAS and the New Zealand Code of Recommendations and Minimum Standards for the Welfare of Deer During the Removal of Antlers are to:

- 1) Ensure acceptable standards of animal welfare are maintained.
- 2) Support product traceability requirements of the Deer Industry QA Programs.
- 3) Ensure Occupational Health & Safety requirements for personnel involved in velvet removal are maintained.
- 4) Meet QA, residue and animal welfare expectations of international and domestic communities and clients

The specification manual is currently with publishers who hope to have a version of the manual available by mid June 2002. After the first version is produced and accepted by industry, subsequent versions will be produced in Korean and Chinese.

5. Discussion

For products to have credibility and be accepted by the marketplace QA programs that provide a reasonable guarantee of food safety and commitment to animal welfare must be maintained. Further, harvesting and preparation of domestic and export products to stringent specifications boosts consumer confidence and simplifies marketing and product ordering activities.

In the early 1990's the deer industry linked with the Rural Industries Research and Development Corporation ©, through the Corporation's Deer Research and Development Advisory Committee, to develop the Australian Deer Industry Venison Language and Specifications manual.

The development of a standard language and specifications for the Industry's other major products, Velvet Antler and Venison Co-products was seen as the next step in the joint commitment to the development of a mature market driven industry.

Marketing information clearly indicates that as Asians involved in the production, processing, marketing and use of traditional Chinese medicines they are increasingly broadening their search for new sources of both raw materials and processed products.

The Velvet Antler and Venison Co-products Language and Specifications manual will objectively inform markets of Australia's ability to supply these products and of its commitment to Quality Assurance in providing the products according to standard specifications.

The manual is available to all sections of the industry to provide a common language for accurately described velvet antler grades and a core range of venison co-products.

6. Implications

Australia is not a well-recognised supplier of such goods to Asian markets for Traditional Chinese Medicine Products and to transient Asian tourist populations.

The velvet antler and venison co-products manual produced by this project provides those involved in marketing products with a 'user friendly' publication that will inform purchasers of the standard specifications for products produced in Australia and of the Australian industry's commitment to Quality Assurance in production and supply of the products it produces.

The manual also provides farmers with an 'easy to update' summary of velvet grading charts and general information about venison co-products.

The velvet antler and venison co-products manual compliments the Australian Deer Industry's Quality Assurance program is well placed to aid the confident production of products that meet processor/marketer quality standards.

7. Recommendations

The manual should be regarded as a 'living' document that will progressively meet changing requirements. It was developed with input and cooperation from a wide range of Industry personnel, all of whom we thank sincerely. In particular a special note of thanks is given to the New Zealand Game Industry Board for its consent to include information from their Velvet Grading Charts for Red deer and Wapiti in this manual.

All processors and purchasers of Velvet Antler and Venison Co-products are urged to use the manual and make recommendations for amendments to further the aims of excellence within the Australian deer industry.

8. References

Chapman, A (2001) *Personal Communication*, Bilby International, Australia

Chen, L.Z. (2001) *Personal Communication*, Tong Ren Tang Australia

Dockrill, G. (2002) *Personal Communication*, Australian Deer Horn and Co-products Pty Ltd, Australia.

Hamer, M. (2001) *Personal Communication*, Alpine Deer Group Ltd, New Zealand

O'Connor, M. (2002) *Personal Communication*, New Zealand Game Industry Board, New Zealand